

## A New Species of *Ophiogomphus* (Odonata)

By JAMES G. NEEDHAM

While I was reviewing the North American species of *Ophiogomphus* for a new Manual, Dr. Calvert sent me for study a pair of undetermined specimens from the collection of the Academy of Natural Sciences of Philadelphia. When I reported to him that they represent a new species, he told me to describe them, and that I now do herewith. This generous aid enables me to make my coverage of the New World species more complete.

### *Ophiogomphus edmundo* n. sp.

This is a greenish species, distinctly striped with brown on the thorax, and with a blackish abdomen. The face is pale greenish or yellowish-green, with a narrow line of pale cinnamon brown on the hair-fringed front margin of the labrum. The top of the head is black, darkest across the preocellar crossband, becoming paler brown behind the postocellar ridge. The antennae are black, the stout basal segment tipped with a narrow ring of white. The occiput is yellowish, its crest fringed with rather long blackish hair.

The middorsal stripe of the synthorax is well defined, divided full length by the yellow of the carina. In front it is widened a little at the yellow collar, and at the rear it divides and spreads over the crest. Humeral and ante-humeral stripes are well separated by a narrow pale line, except at their ends. The mid-lateral stripe is present below the level of the spiracle; the third lateral, narrow, complete and well developed.

The legs are pale basally, becoming black toward the knees, and all black beyond. There is no yellow line on the tibiae externally. The wings are hyaline with brown veins, a white costa and a tawny stigma. In the hind wing there are seven or eight antenodal crossveins and there are five cells in the basal anal triangle of the male.

The abdomen is slender along the middle segments. Beyond the paler and hairy basal segments it is smooth, blackish and

shining, and it has the usual middorsal and lateral markings of yellow. The middorsal stripe broadly covers segments 1 and 2, becomes narrowed to a line on 3, does not reach the apex on 4 to 7, broadens again and is reduced to half-length on 8, and to a round basal spot on 9. Segment 10 is mostly yellow; appendages yellow.

The superior appendages of the male viewed from above are broadly widened at the base by a pair of opposed conical teeth that almost meet on the middle line under a slight prolongation of the dorsum of segment 10. Beyond these teeth the appendages taper smoothly to rather sharp diverging apices. Viewed from the side they are swollen at the base, then narrowed to cylindrical form, and then obliquely truncated upward to their sharp tips. There are minute rugulositys on the upward slope near the end. The inferior appendage is about equal in length to the superiors. Viewed from the side it is angulated at mid-length and slopes downward beyond the angle to its up-turned tips. Viewed from beneath, its broad end is cleft by a U-shaped notch that is deeper than it is wide. Its up-turned outermost angles are outspread just a little more widely than the tips of the superior appendages, so that they are hardly visible from above. The hamules of the single male available are not fully visible, but their tips are black and shining, and enough of the posterior one is seen to show that on its front margin there is no angulation, but only a long convex slope.

The female associated with the male is similar in coloration and somewhat larger. The brown middorsal stripe of the thorax is less widely divided by the yellow of the carina, but the other markings are much as in the male. There are no horns on the top of the occiput, but there is a pair on the rear side, wide apart and close to the margin of the eye. They are very small, black, blunt and crumpled in appearance.

Length: ♂ 45 mm., ♀ 48; abdomen ♂ 31, ♀ 34; hind wing ♂ 24, ♀ 29.

This species is nearest *aspersus* Morse, from which it differs in having better defined stripings of the thorax. The male superior appendages are not swollen in the middle as in that spe-

cies, nor are they so deeply rugose on their beveled end. The two opposed teeth, close-set under the middorsal tip of segment 10, are much sharper and better exposed to view; in *aspersus* they are blunt; hitherto they seem to have been overlooked. The inferior appendage is longer and much more deeply and narrowly cleft than in *aspersus*, and its tips are more widely outspread. The subgenital plate of the female is similar to that in *aspersus*, but perhaps a little longer. In the color pattern of the abdomen the two species appear almost alike.

*Holotype* ♂. "N. C." [Academy of Natural Sciences of Philadelphia No. 9282].

*Allotype* ♀. Inglenook, Pennsylvania, June 3d 1892 [Academy of Natural Sciences of Philadelphia, No. 9282].

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## Two New South American Aeshnidae (Odonata)

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Examples of the genus *Neuraeschna* Selys are infrequent in collections. During examination of some unidentified material in the McLachlan collection, five specimens of this genus were found. Four of these appear to belong to an undescribed species, which I have great pleasure in naming after Dr. Philip P. Calvert, in honour of his eightieth birthday. I am also including a description of a second new species, based on a single male collected in British Guiana by Mr. C. A. Hudson.

### *Neuraeschna calverti* sp. n.

♂. Labrum, anteclypeus and postclypeus yellowish, shading to yellowish-brown on frons in front; frons above dark brown anteriorly, pale yellowish-brown behind, so that the T-spot has no stem. Vertex and occiput dark brown.

Thorax dark brown, with a blue or green dorsal spot on each side narrowed at its upper end and not reaching the antealar carina. Other thoracic markings pale yellowish-green (rather faded) as follows: The antealar sinns except near the carina;